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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,672	04/19/2000	Hubert M. Segers	PM 268162 P-0135.010-US	2940

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EXAMINER
FULLER, RODNEY EVAN

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 03/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/552,672	SEGERS ET AL.	
	Examiner	Art Unit	
	Rodney E Fuller	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *10* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Remarks

In response to applicant's amendment, dated January 15, 2003, the examiner acknowledges the addition of claims 15-30. Claims 1-30 are pending.

Regarding the 35 U.S.C. 103(a) rejection of claims 1, 4, 7, 8-14 as being unpatentable over Takizawa (US 5,471,279) in view of Ota (US 6,228,544), the applicant makes the argument that "the U.S. filing date of Ota is September 2, 1999 and that the effective U.S. date of the present application is April 21, 1999 (Foreign Priority) which is earlier than the filing date of Ota." The examiner notes that the effective file date of Ota is actually August 7, 1997 (i.e., continuation application of No. 08/908,429). Thus, Ota is a valid prior art document. Furthermore, the examiner notes that the claimed subject matter of the present application is not fully supported by the applicant's foreign priority document 99201223.7. The foreign priority document does not support the claimed limitations of a "intermediate table comprising a major surface provided with a plurality of apertures," "a gas bearing generator," "maintaining the substrate for a given time interval upon a gas bearing generated between the major surface and the substrate," "temperature controller constructed and arranged to regulate a temperature of at least one of the intermediate table and temperature of the gas." (Note: The cited claim limitations not supported are only representative and of the independent claims. Other limitations in the independent and dependent claims are also not supported by the applicant's foreign priority document.) Thus, the claims subject matter does not get the benefit of the claimed priority date. Thus, the examiner maintains the rejection.

Regarding the 35 U.S.C. 103(a) rejection of claims 12 and 13 as being unpatentable over by Leoff (US 3,603,646) in view of Doley, et al. (US 6,161,311), the applicant makes the argument that "one of skill in the art would not have been motivated to modify the ionizer of Doley et al and combine the ionizer of Doley et al with the wafer transport system of Leoff and even if combined one skilled in the art would not obtain the subject matter recited in claim 12." In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya*, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA). In this case, the examiner maintains it would have been obvious to modify Leoff by including "...an ionizer constructed and arranged to ionize the gas," for at least the purpose of discharging the static about the intermediate table of the substrate table. Further, the examiner maintains that the combination of Leoff and Doley teaches the subject matter recited in claim 12. (See *Claim Rejections - 35 USC § 103* section below.)

Regarding the 35 U.S.C. 103(a) rejections of claims 2, 3, 5, and 6, the applicant relies on the argument that Ota is precluded from use a prior art reference. As noted above, the examiner notes that Ota is a valid prior art reference. Thus, the rejections are maintained.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 4, 7, 8-15, 17-19, 23, 24, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa (US 5,471,279) in view of Ota (US 6,228,544).

Takizawa (US 5,471,279) discloses all the structure set forth in the claims except for the limitation as argued by the applicant of "...an intermediate table on which a substrate can be positioned before transfer to the substrate table." However, the use of an intermediate table on which a substrate can be positioned before transfer to the substrate table is routine in the art as is evident from the teaching of Ota (US 6,228,544) (Fig. 1, ref.# 20). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takizawa (US 5,471,279) by including an intermediate table on which a substrate can be positioned before transfer to the substrate table. The ordinary artisan would have been motivated to modify Takizawa (US 5,471,279) in the manner described above for at least the purpose of removing a quantity of heat corresponding to a heat accumulation on the substrate stage during exposure as described by Ota (US 6,228,544) (abstract).

Regarding claim 4, a further difference between Takizawa (US 5,471,279) and the claimed invention is "...wherein said gas bearing has thickness less than 150 μm. It

would have been obvious to one having ordinary skill in the art at the time the invention was made to require the gas bearing to have a thickness less than 150μm, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 9, a further difference between Takizawa (US 5,471,279) and the claimed invention is "...wherein said position detector is constructed and arranged to detect a mark on the substrate." However, the use of a position detector that is constructed and arranged to detect a mark on the substrate is routine in the art as is evident from the teaching of Ota (US 6,228,544) (see column 2, line 4). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Takizawa (US 5,471279) by "...wherein said position detector is constructed and arranged to detect a mark on the substrate." The ordinary artisan would have been motivated to modify Takizawa (US 5,471,279) in the manner described above since it would be an obvious matte of design choice to use a mark or an edge detector, since applicant has not disclosed that using a mark detector solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with either a mark or edge detector.

3. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Leoff (US 3,603,646) in view of Doley, et al. (US 6,161,311).

Leoff (US 3,603,646) discloses all the structure set forth in the claims except for the newly added limitation of "...an ionizer constructed and arranged to ionize the gas."

However, the use of an ionizer to ionize the gas in a semiconductor wafer handling system is routine in the art as is evident from the teaching of Doley (US 6,161,311) (abstract). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Leoff (US 3,603,646) by including "...an ionizer constructed and arranged to ionize the gas." The ordinary artisan would have been motivated to modify Leoff (US 3,603,646) in the manner described above for at least the purpose of discharging the static about the intermediate table of the substrate table.

4. Claims 2, 16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa (US 5,471,279) and Ota (US 6,228,544) as applied to claim 1 above, and further in view of Doley et al. (US 6,161,311).

Regarding claims 2, 16 and 25, Takizawa (US 5,471,279) and Ota (US 6,228,544) discloses all the structure set forth in the claims except "...wherein said preparatory station comprises a gas ionizer constructed and arranged to ionize said gas." However, the use of a gas ionizer to ionize gas coming in contact with a photolithographic substrate is routine in the art as is evident from the teaching of Doley, et al. (US 6,161,311) (see abstract, lines 19-28, Doley). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Takizawa (Us 5,471,279) by including a "...gas ionizer constructed and arranged to ionize said gas." The ordinary artisan would have been motivated to modify Takizawa (US 5,471,279) in the manner described above for at least the purpose of removing any static charge as described by Doley (US 6,161,311) (see abstract, lines 25-28, Doley).

5. Claim 3, 5, 6, 15, 20-22 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa (US 5,471,279) and Ota (US 6,228,544) as applied to claim 1 above, and further in view of Tsutsui (US 4,720,732).

Regarding claims 3, 20 and 26, Takizawa (US 5,471,279) and Ota (US 6,228,544) discloses all the structure set forth in the claims except "...wherein said intermediate table comprises a first temperature controller constructed and arranged to regulate a temperature of the intermediate table." However, the use of a "...temperature controller constructed and arranged to regulate a temperature" of a table which hold a substrate is routine in the art as is evident from the teaching of Tsutsui (US 4,720,732) (see abstract, lines 8-13, Tsutsui). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Takizawa (US 5,471,279) by "...wherein said intermediate table comprises a first temperature controller constructed and arranged to regulate a temperature of the intermediate table." The ordinary artisan would have been motivated to modify Takizawa (US 5,471,279) in the manner described above so that the reliability of alignment between the pattern of the mask and the pattern formed on the wafer is improved as described by Tsutsui (US 4,720,732) (see abstract, lines 14-17, Tsutsui).

Regarding claims 5, 22 and 27, a further difference between modified Takizawa (US 5,471,279) and the claimed invention is "...wherein said preparatory station comprises a second temperature controller constructed and arranged to regulate the temperature of said gas." However, Tsutsui (US 4,720,732) discloses a temperature

controller (Fig. 1, ref.# 8, Tsutsui) to control the temperature of air flowing into the substrate table. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Takizawa (US 5,471279) by "...wherein said preparatory station comprises a second temperature controller constructed and arranged to regulate the temperature of said gas." The ordinary artisan would have been motivated to modify Takizawa (US 5,471,279) in the manner described above to help maintain the same temperature between the substrate and the substrate table so that the reliability of alignment between the pattern of the mask and the pattern formed on the wafer is improved as described by Tsutsui (US 4,720,732) (see abstract, lines 14-17, Tsutsui).

Conclusion

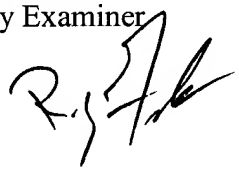
6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Fuller whose telephone number is (703) 306-5641. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams, can be reached on (703) 308-2847.

Rodney Fuller
Primary Examiner



March 20, 2003